

No. 876,231.

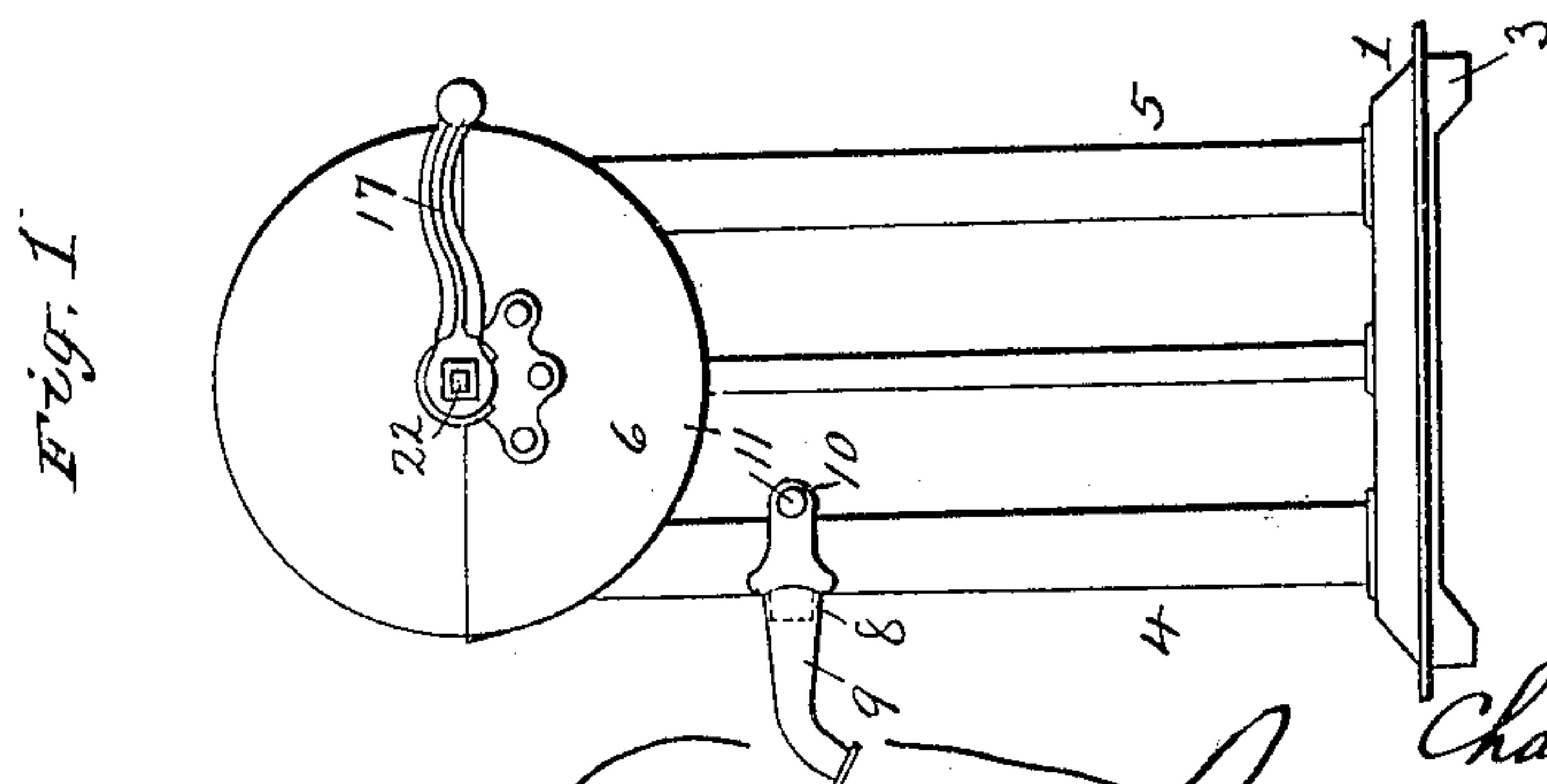
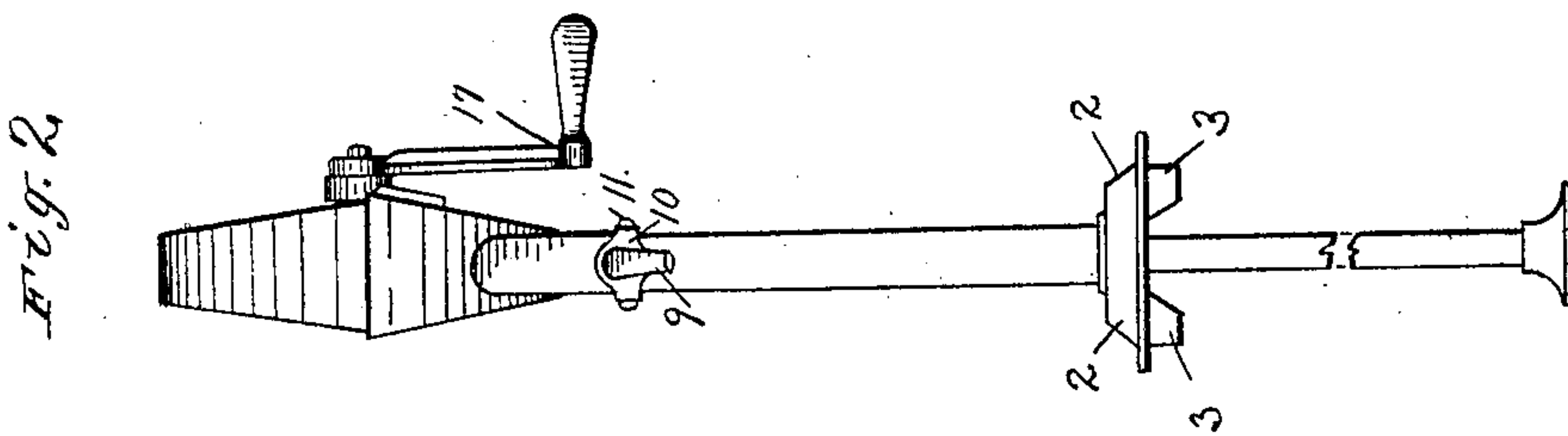
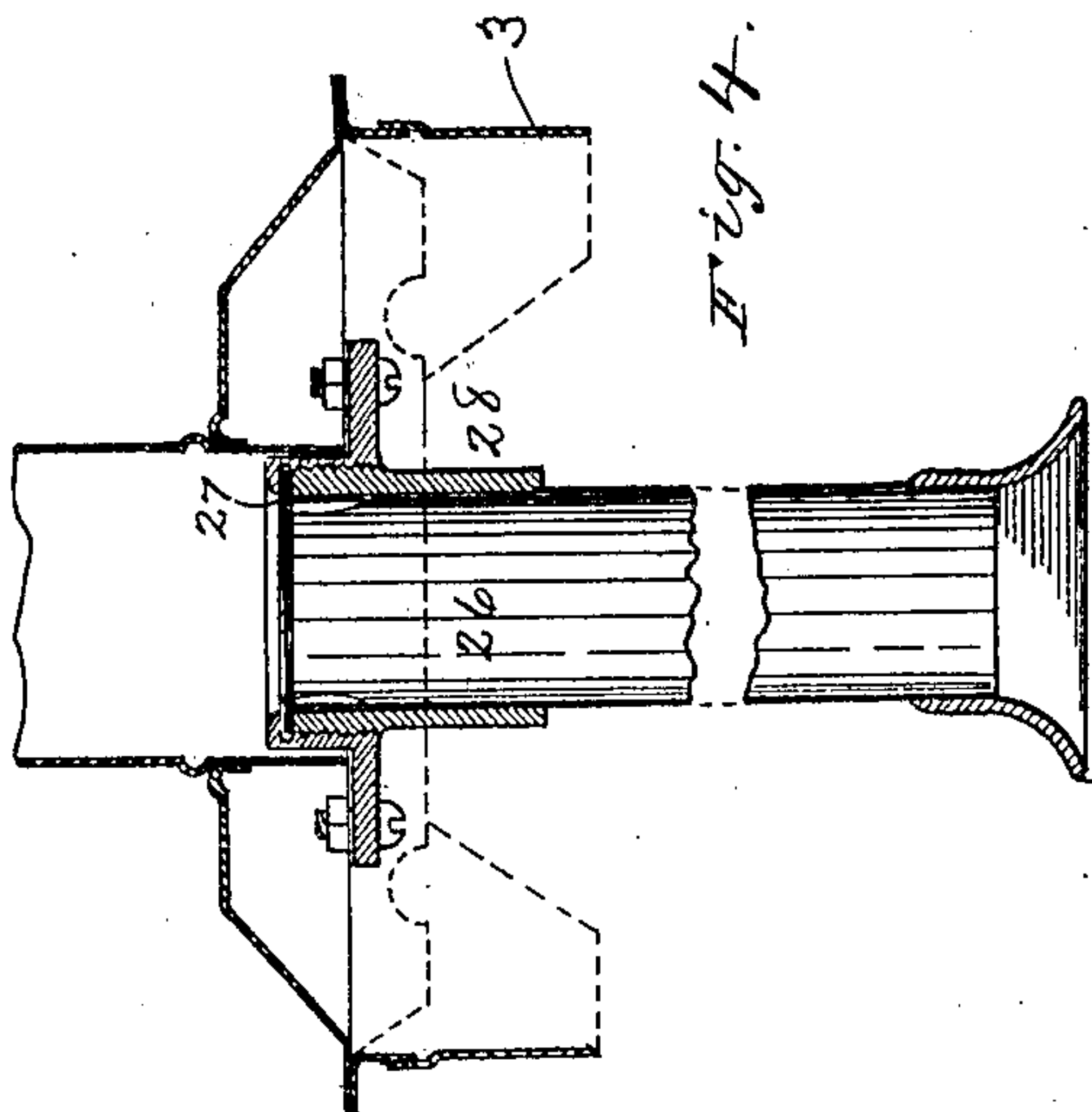
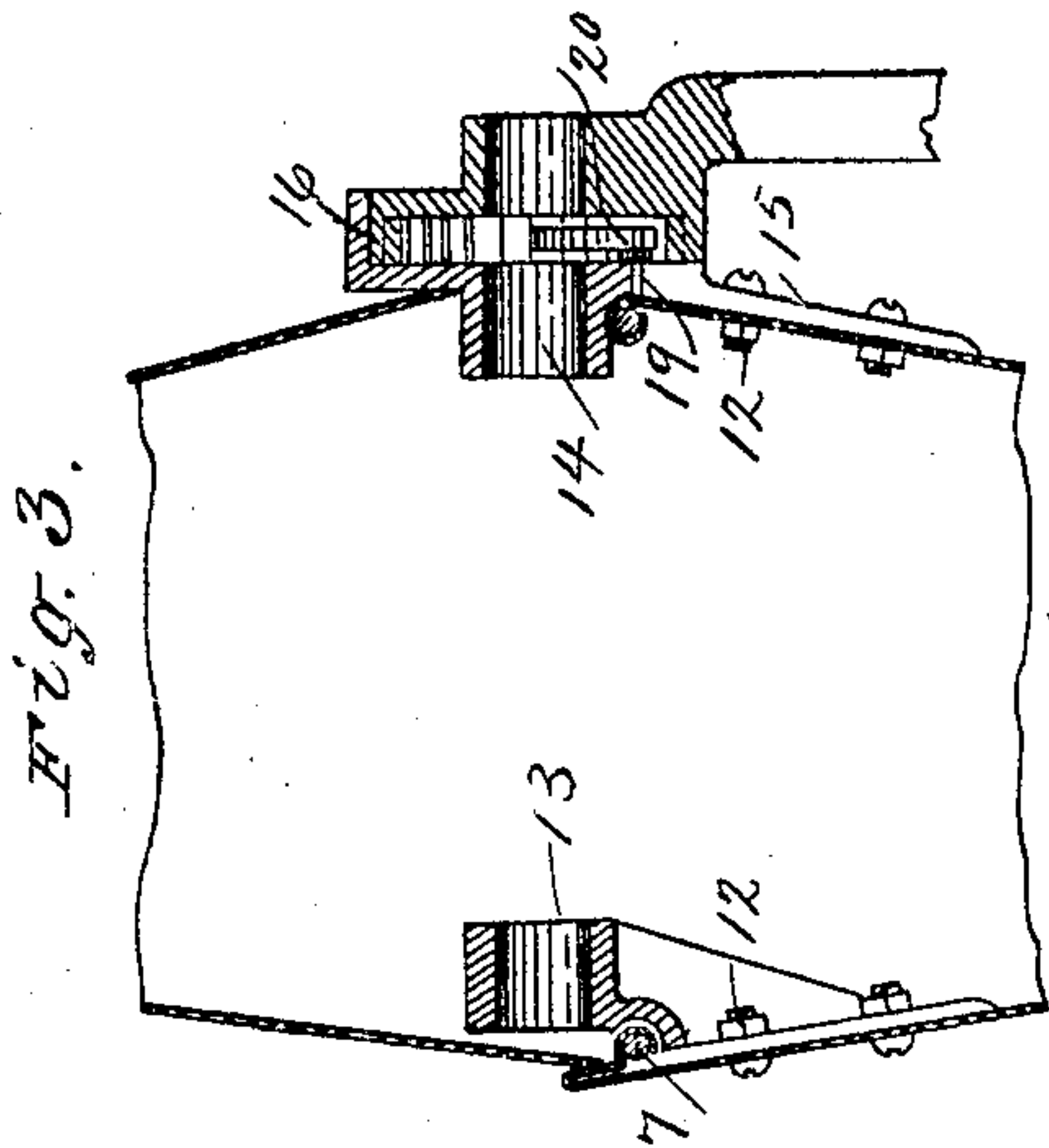
PATENTED JAN. 7, 1908.

C. E. PFENDER.

PUMP.

APPLICATION FILED AUG. 8, 1906.

2 SHEETS—SHEET 1.



Witnesses

C. K. Davis
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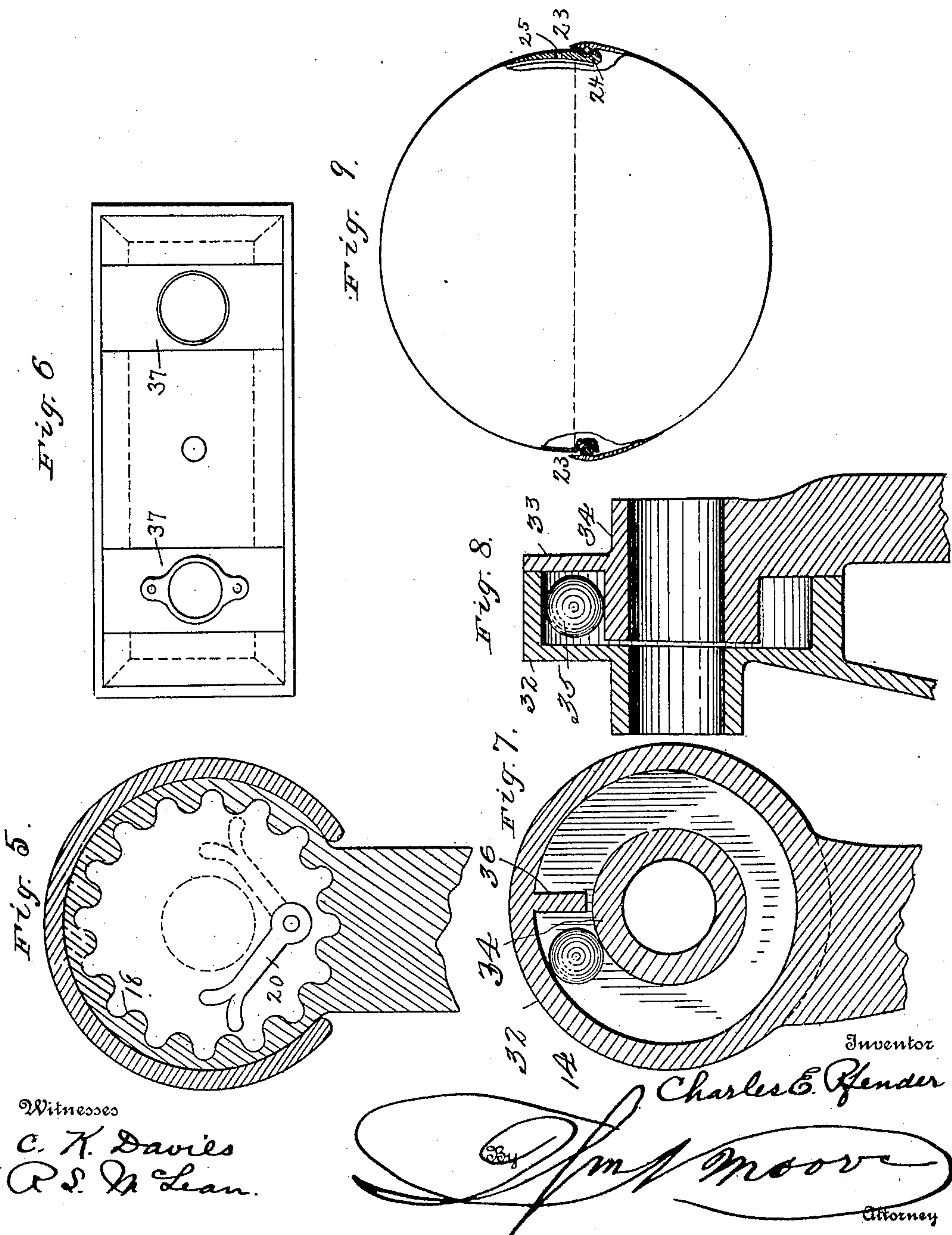
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2 SHEETS—SHEET 2.



UNITED STATES PATENT OFFICE.

CHARLES E. PFENDER, OF EVANSVILLE, INDIANA.

PUMP.

No. 876,231.

Specification of Letters Patent.

Patented Jan. 7, 1908.

Application filed August 8, 1906. Serial No. 329,739.

To all whom it may concern:

Be it known that I, CHARLES E. PFENDER, a citizen of the United States, residing at Evansville, in the county of Vanderburg and State of Indiana, have invented certain new and useful Improvements in Pumps, of which the following is a specification.

My invention relates to improvements in pumps, and refers in particular to the class known as chain pumps.

One object of my invention, is to provide suitable means for coupling the chain pipe to the upper portion of the pump, and also the provision of simple and effective means for preventing backward rotation of the sprocket wheel.

Further objects of the invention are the provision of means for strengthening the sheet metal wheel box, and a detachable spout which may be readily attached or removed.

With these and other objects in view, my invention consists of a chain pump provided with a detachable spout, improved means for coupling the chain pipe to the base of the pump, and means within the crank handle for preventing backward rotation thereof.

The invention also consists of a pump embodying certain other novel features of construction, combination and arrangement of parts substantially as herein disclosed.

Figure 1, is a side elevation of my improved pump. Fig. 2, is a front end view thereof, showing the chain pipe connected to the base. Fig. 3, is a central vertical sectional view through the wheel box and crank handle showing the pawl in position therein. Fig. 4, is a detail sectional view of the coupling for securing the chain pipe to the base. Fig. 5, is a detail view partly in section of the pawl and ratchet mechanism on the crank handle. Fig. 6, is a bottom plan view of the pump base. Fig. 7, is a detail sectional view of a modified form of means for locking the crank handle. Fig. 8, is another sectional view of the same taken in a plane at right angles to the one in Fig. 7. Fig. 9, is an elevation of the wheel box with parts broken away to show the manner in which the lid is secured thereto.

In the drawings: The numeral 1, designates the base of the pump preferably made of sheet metal and formed with the inclined upper edges 2, and the corner lugs or extension pieces 3, for anchoring the base firmly upon

the floor. Transverse cross bars 37, (see Fig. 6) are mounted in the lower portion of the base, and extending upward from the base, are the front and rear chain pipes, 4 and 5, respectively, and supported upon their upper ends, is the sheet metal wheel box 6. The wheel box is divided into an upper and lower portion, the edge of the lower half being provided with the strengthening wire or rod 7. At the proper distance above the base, the front chain pipe 4, is provided with an outlet sleeve or collar 8, and a removable spout 9, is adapted to be mounted over this sleeve. The spout is formed with rearward extensions or ears 10, and through these ears a securing bolt 11, is passed so that the spout is securely clamped to the pipe.

Secured by bolts 12, to the inner side of the wheel box, is the journal bearing 13, and to the opposite side and exterior of the wheel box, is bolted the complementary bearing 14. This bearing 14, is formed with an external rim or extension 15, within which is confined the hollow head or collar 16, on the end of the crank handle 17. The inner wall of the hollow head, is formed with corrugations or serrations 18, and confined within said head and pivoted to the journal bearing by means of the pin 19, is a pawl 20, having the forked ends 21. The usual shaft or axle 22, carrying the regulation sprocket wheel and chain (not shown) is mounted in the bearings and has the crank handle secured to one end thereof. As shown in Fig. 5, the forked pawl is adapted to lie to one side of the shaft and engage the corrugations on the interior of the crank head and thereby allow the crank to be rotated only in one direction. The pawl may be arranged to allow rotation in either direction by changing its position on either side of the shaft (shown in dotted lines in Fig. 5).

The cover to the wheel box is adapted to rest upon the rim in the lower half of the boxing, and at one side, the cover is formed with a lip 23, which engages under the wire rim, as shown in Fig. 9, and at the opposite edge is provided with a hooked spring tongue 24, which engages the rim and serves to lock the cover in place. The cover may be removed by inserting a nail or other sharp instrument in the opening 25, provided for that purpose and thereby releasing the tongue from engagement with the rim.

The chain pipes may be secured within the

base by riveting or other suitable fastening, and within the base is bolted an interiorly threaded sleeve 26, which makes tight joint with and extends a short distance up into the front chain pipe. This sleeve is formed at its upper end with an interior overhanging edge or rim 27. Into the sleeve 26, is screwed a coupling 28, within which closely fits the lower chain pipe 29, and when the coupling is screwed in place, the upper flanged end 30, of the chain pipe, is securely clamped between the overhanging rim and the end of the coupling. The lower end of the chain pipe is provided with the usual flaring mouth 31.

In Figs. 7 and 8, is shown a modification of the means for locking the crank handle. The bearing 14, is provided with the external circular rim 32, but said rim is eccentric to the shaft, the lower edge of the rim being closer to the shaft than the upper edge thereof. The crank handle is provided with a flange 33, which entirely covers the annular rim on the bearing, and it is further provided with a hub 34. A ball 35, is confined within the space between the hub and the annular rim, and is of a size sufficiently large that it cannot pass beneath the hub from one side to the other. A lug or partition 36, extends downward from the upper portion of the rim and prevents the ball from passing from one side to the other over the top of the hub. Thus it will be understood that the ball allows rotation of the hub and consequently the axle, only in one direction, and that it becomes wedged between the lower portion of the rim and the hub as soon as rotation is started in the wrong direction.

From the foregoing description taken in connection with the drawings, it will be evident that I have accomplished all the objects herein set forth, and have provided simple and efficient means for locking the

parts, which locking means are thoroughly protected from outside influence.

I claim:

The pump herein shown and described comprising an open base having corner supporting lugs, transverse supporting bars extending across said base, chain pipes rising from and supported on said base, an internally threaded sleeve secured to one of the transverse bars and having an upper overhanging rim, a coupling engaged in said threaded sleeve, a supply pipe supported in the coupling having a lower flaring mouth and a flanged upper rim clamped between the upper end of the coupling and the overhanging rim of the sleeve, the sleeve having its upper end extending up into one of the chain pipes, an angularly outstanding outlet sleeve on one of the pipes, a spout fitting over said sleeve, the spout having rearwardly extending ears adapted to partly embrace the pipe, a clamping bolt secured between said ears, a divided wheel casing supported on the chain pipes, a brace rod surrounding the edge of the lower half of the casing, the upper half of the casing having a depending hooked edge for engagement beneath the brace rod, a spring pressed catch depending from the opposite edge of the upper half for interlocking engagement beneath the brace rod, journal bearings carried by the lower half of the casing, a shaft supported in said bearings, a chain wheel and crank on said shaft, and mechanism for preventing backward rotation of the shaft.

In testimony whereof I have signed my name to this specification in the presence of two subscribing witnesses.

CHARLES E. PFENDER.

Witnesses:

OSCAR A. JENSEN,
ADOLPH. FUCHS.